



**SITE ASSESSMENT REPORT
AND REMOVAL COST ESTIMATE
FOR
AUTODEPOSITION INC. SITE
CHICAGO, COOK COUNTY, ILLINOIS
TDD: T05-9505-018
PAN: EIL0889SAA**

September 8, 1995

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency and Enforcement Response Branch
77 West Jackson Boulevard
Chicago, Illinois 60604**

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ecology and environment, inc.

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Cost Summary

Page: 1

Projection Name: Autodeposition, Inc.
Projection Type: Initial

Date: 06/20/95
Prime Contractor: RBS5

CONTRACTOR

Personnel Cost	274475
Equipment Cost	62073
Other Direct Cost	318374
Total for Contractor	654922
Contractor Contingency: 15%	98238
Including Contractor Contingency:	753160
Site Contingency: 20%	130984
Including Site Contingency:	884145

GOVERNMENT

Personnel Cost	
BPA	99000
TAT	94920

	213695
Equipment Cost	

	0
Other Direct Cost	

	0
Total for Government	213695
Site Contingency: 20%	42739
Including Site Contingency:	256434

PROJECT TOTAL

=====

1140579

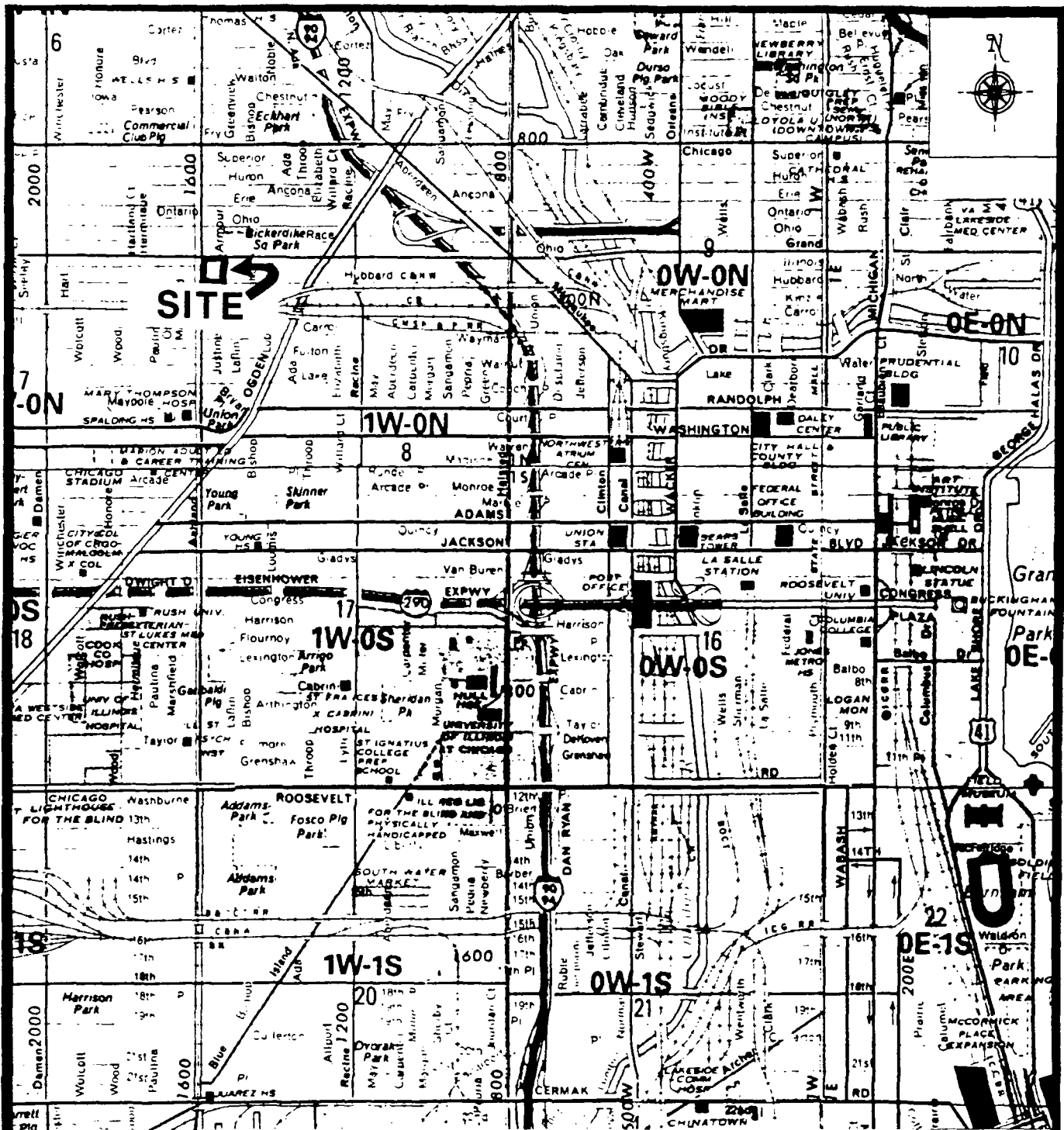
1. INTRODUCTION

On May 25, 1995, the United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Technical Assistance Team (TAT), under Technical Direction Document (TDD) T05-9505-018 to perform a site assessment (SA) of the Autodeposition, Inc. (Autodeposition) site, located in Chicago, Illinois. E & E was assigned to prepare and implement a Health and Safety Plan; compile available information; conduct a site inspection; conduct air monitoring as appropriate; prepare and implement a sampling plan, if requested by the On-Scene Coordinator (OSC); evaluate threats to human health and the environment; provide verbal briefings to the OSC as necessary; document on-site activities; provide photodocumentation; and develop alternative removal approaches with cost estimates, if requested by the OSC. The following report describes activities associated with this TDD.

A site reconnaissance was performed on June 1, 1995, at the Autodeposition site, which is an inactive electroplating facility. Air monitoring was conducted during the reconnaissance and samples were collected. Site conditions observed during the SA were photodocumented.

The Autodeposition site is located at 1518 Hubbard Street, Chicago, Cook County, Illinois. Refer to Figure 1-1 for the site location. The area surrounding the site is primarily industrial. The site's electroplating apparatus is housed in a two-story building on site. Site boundaries are formed by Ashland Avenue to the west, Hubbard Street to the south, Armour Street to the east, and an alley to the north. A small office is located on

the south side of the facility. On the second floor is a small area that was used as a locker room and records storage area. The building is separated into three sections by walls and fire doors. Refer to Figure 1-2 for site features.



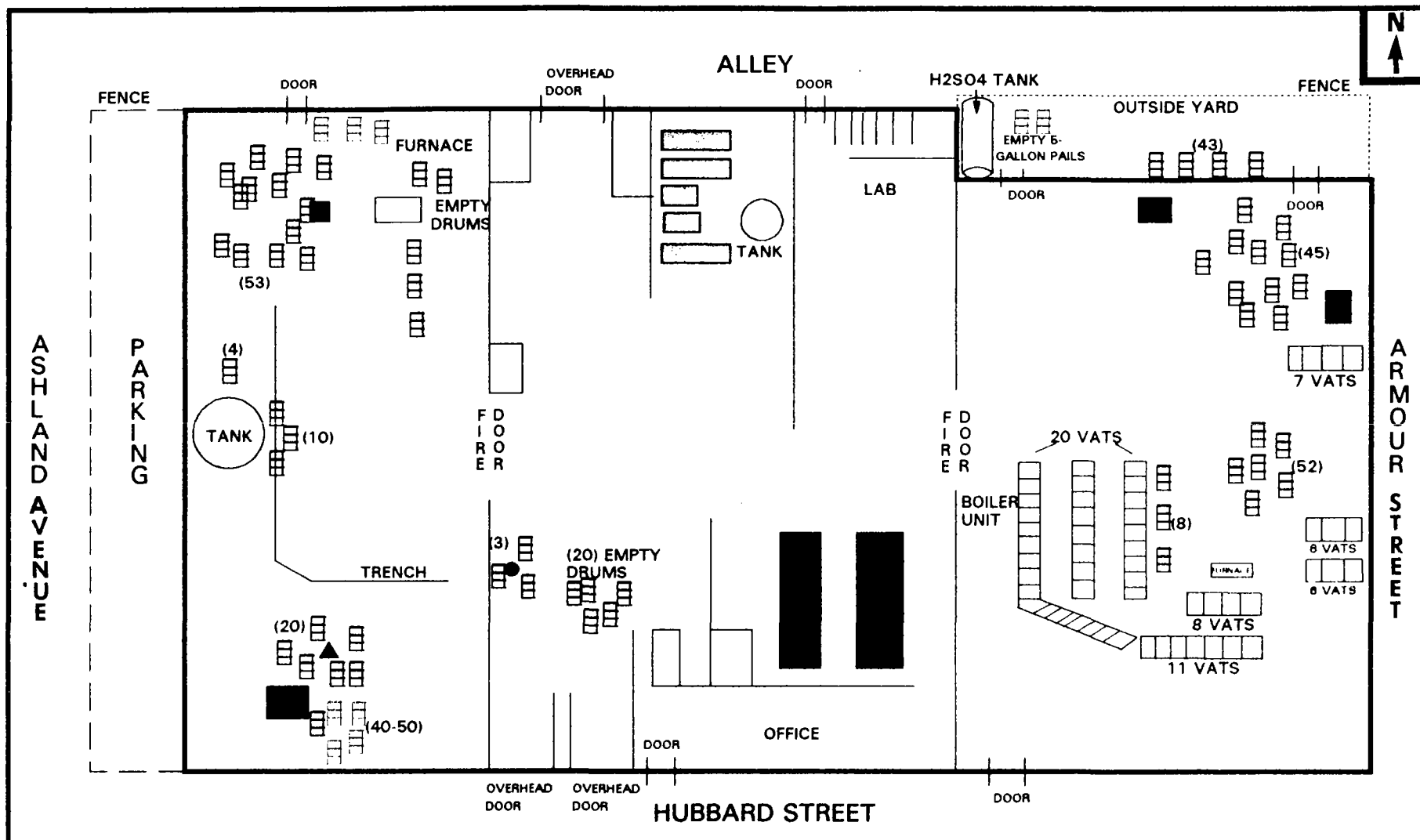
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Technical Assistance Team

Region V

111 W. Jackson Blvd., Chicago, Illinois 60604

TITLE	Site Location Map	FIGURE #	1-1
BY	AUTODEPOSITION INC.	TEL	T05-9505-018
CITY	Chicago	STATE	Illinois
SCALE	NOT TO SCALE		
SOURCE	American Automobile Association, Chicago Map		
DATE	1978		
REVISION			



▲ CHROMIC ACID
NI SOLUTION/BRIGHTNER
FLAMMABLES

● HYDROGEN PEROXIDE
AMMONIUM BICARBONATE

■ CRYSTALLIZED COPPER CYANIDE BATH
ALKALINE ZINC
NICKEL-BLACK
CLEANER

LEGEND

□ PH ADJUSTMENT VATS

■ PAINT IMMERSION VATS

□ CHROME PLATING VATS

■ VATS (USE UNKNOWN)

▤ DRUMS

▤ 5-GALLON PAIL

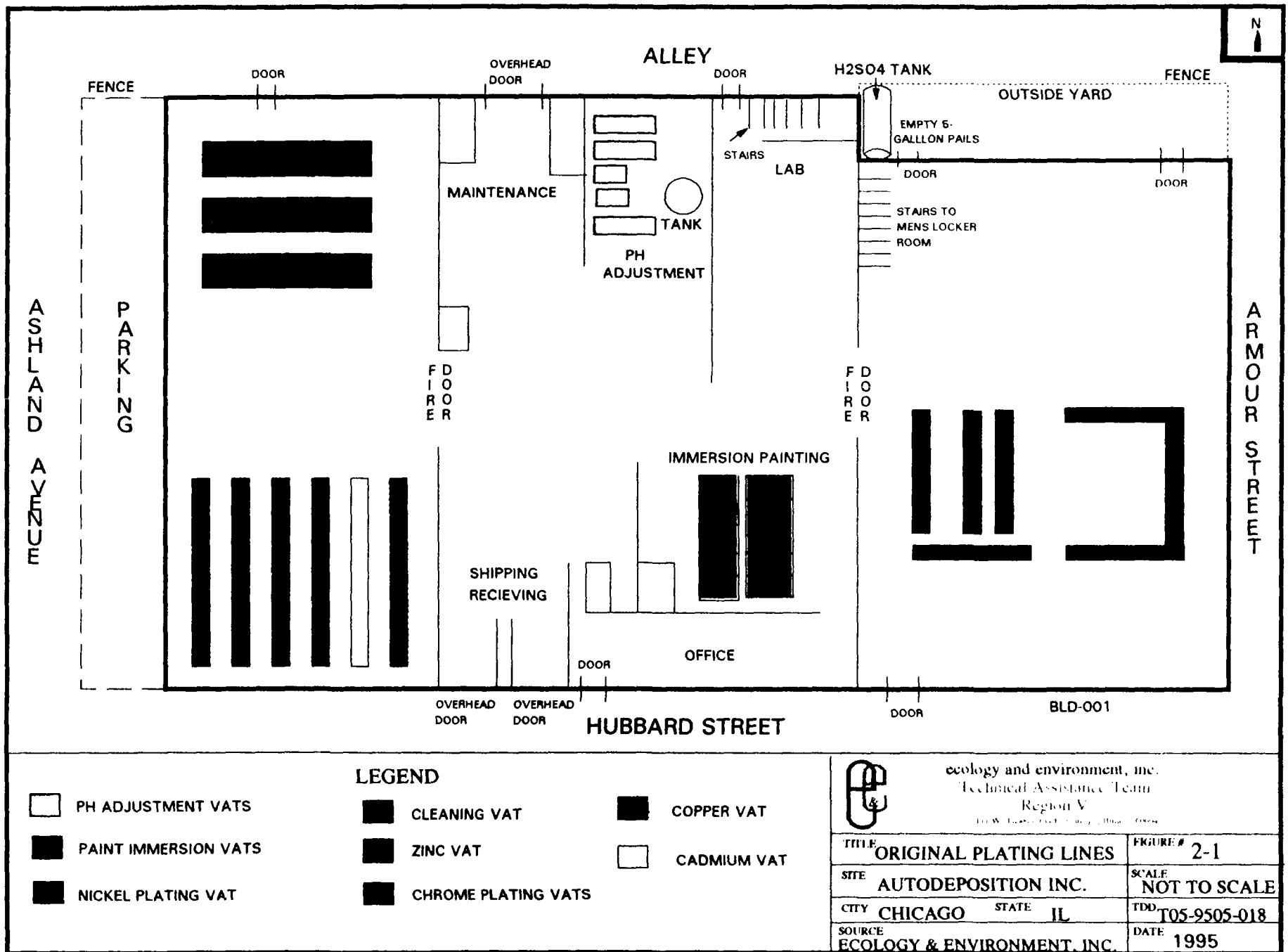


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Technical Assistance Team
Region V
111 W. Franklin Street, Chicago, Illinois 60604

TITLE SITE FEATURES MAP		FIGURE # 1-2
SITE AUTO DEPOSITION INC.		SCALE NOT TO SCALE
CITY CHICAGO	STATE IL	TDD T05-9505-018
SOURCE ECOLOGY & ENVIRONMENT, INC.		DATE 1995

2. BACKGROUND

The Autodeposition site is an inactive electroplating facility, which is currently owned by George and Glenn Westerberg. In 1923 the facility initiated operations as the Mechanical Plating Company. The facility had several plating lines (Figure 2-1). The Westerberg brothers took over the Mechanical Plating Company in 1983, and continued operating under that name until November 19, 1991. In January 1992, George Westerberg reopened the facility with a new "immersion paint process" and renamed the company Autodeposition Inc. Approximately 1 year later, the business was dissolved and ceased operations. Inspectors for the city of Chicago discovered the site in December 1994, and contacted the owners to secure the site. By April 1995, the city noted that the building was still not secured. Bill Risek of the U.S. EPA Emergency and Enforcement Response Branch (EERB) was then contacted by the city. The owners reported to U.S. EPA that they are financially unable to clean up the site.



3. SITE ACTIVITIES

At approximately 0915 hours on June 1, 1995, U.S. EPA OSC Charles Gebien and TAT members Sally Imes and Brigid Brooks met at the site to collect samples, conduct air monitoring, and photodocument the site conditions that may pose a threat to human health and the environment. Also present for the initial portion of the reconnaissance were: Bill Risek, U.S. EPA; Lafayette Robertson, City of Chicago Senior Environmental Inspector; Joseph Schuessler, City of Chicago Director of Toxic Pollution Control; and George and Glenn Westerberg, site owners. Photologs documenting site conditions are presented in Appendix A.

TAT conducted air monitoring during the reconnaissance with a Microtip photoionization detector (PID). The background reading was 1.8 parts per million (ppm). Air monitoring readings in rooms 1 and 2 of the facility were at background levels. In room 3 readings were elevated and ranged from 2.5 ppm (low) to 3.4 ppm (high). The area was evacuated when high readings were obtained.

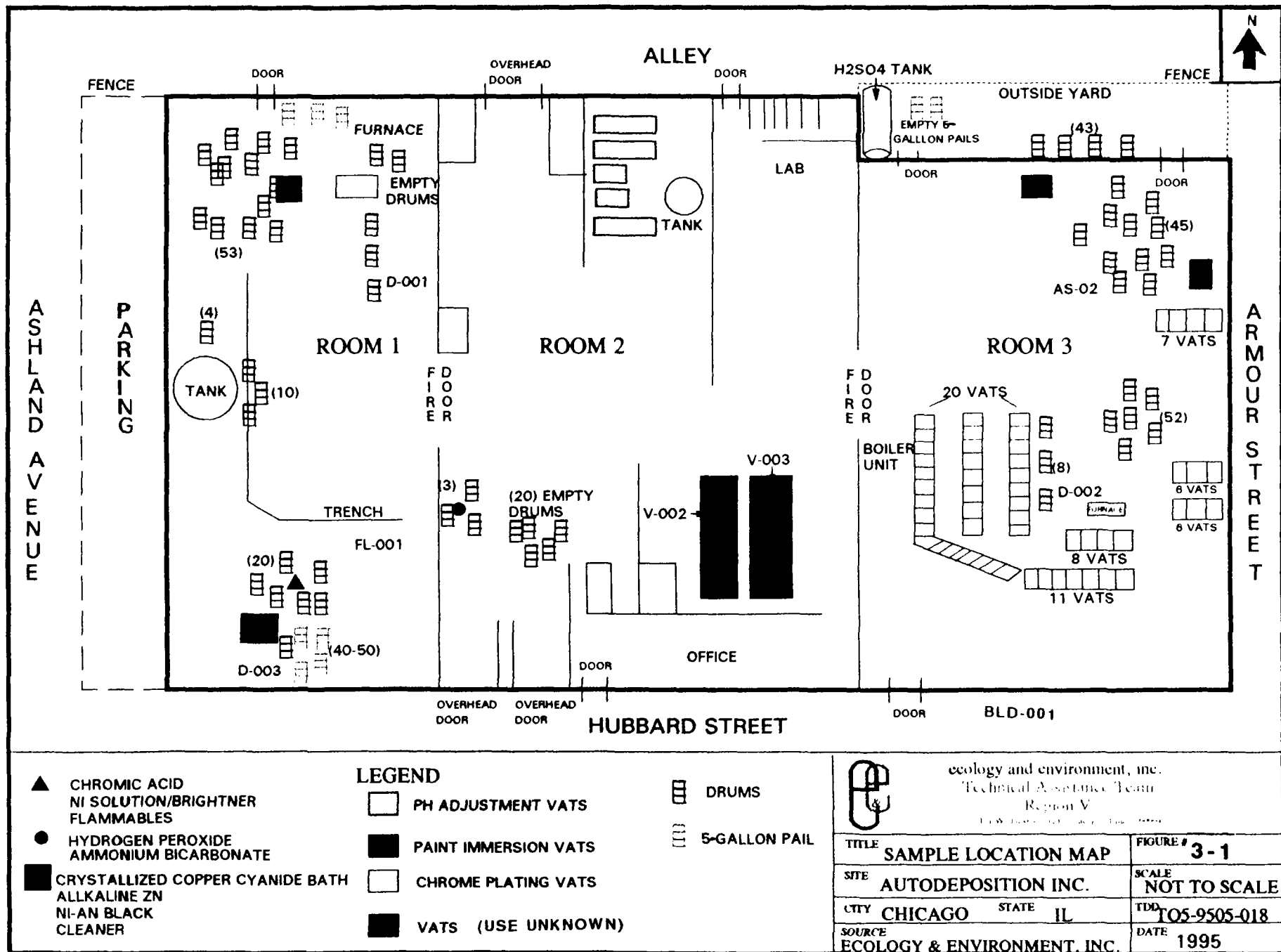
During the reconnaissance TAT observed various drums containing alkaline zinc, crystallized copper cyanide, and nickel black solutions. Over 100 drums of chromic acid were noted on site, some of which appeared to be leaking, in addition to over 50 open vats, some of which contained material. The floors of the building were visibly stained. A 2,500-gallon tank containing acid was observed adjacent to the west wall in room 1. A fenced area outside the building at the northeast corner of the site contained one 5,000-gallon tank that held approximately 2,500 gallons of sulfuric acid; several drums and pails were also

present in this area. TAT collected a total of 8 samples; samples were collected from drums in rooms 1 and 3, from two vats in room 2, from pipe insulation in room 3, and from the floor/vat pit in room 1 (Figure 3-1). The samples were analyzed by EIS Environmental Engineers, Inc. in South Bend, Indiana, under analytical TDD T05-9505-809.

The pH of a white crystalline material in an open 5-gallon pail located in room 1 was determined to be 14. The material was then hazard-categorized ("hazcatted") for cyanide; the results were negative. Nine "immersion painting vats" in room 2 were also ph-tested. The pH was between 5 and 7 for all of the vats except one, which had a pH of approximately 13.

Laboratory chemicals were observed by TAT in room 2. A small laboratory area contained the following: hydrochloric acid, sodium hydroxide, buffer solutions, titrating solutions, silver nitrate, and acetone.

The site conditions outside of the Autodeposition facility were also photodocumented by TAT. Staining was visible along most of the south wall of the Autodeposition building. The staining observed by TAT was also present on the sidewalk, especially adjacent to cracked and deteriorated sections of the south wall. A sample was collected from the south side of the building outside room 3.



4. ANALYTICAL RESULTS

The samples collected at the Autodeposition site were analyzed by EIS Environmental Engineers, Inc. of South Bend, Indiana. The analytical data are provided in Appendix B. Sample analytical results are summarized in Table 4-1.

Analytical results of grab and composite samples collected from the Autodeposition site that exceeded the Resource Conservation and Recovery Act (RCRA) characteristics for hazardous waste include the following:

Sample D-001. The sample was collected from a 55-gallon drum stored in Room 1 of the Autodeposition site. Toxicity characteristic leaching procedure (TCLP) concentrations for chromium were reported at 104,000 milligrams per liter (mg/L), exceeding the RCRA limits for hazardous waste for metals. Total nickel, silver, and zinc were reported at 0.45 mg/L, 1.6 mg/L, and 10.8 mg/L, respectively.

Sample D-002. The sample was collected from a 55-gallon drum stored in Room 3 of the Autodeposition site facility. TCLP concentrations for chromium were reported at 194,000 mg/L, exceeding the RCRA limits for hazardous waste for metals.

Sample D-003. The sample was collected from a 55-gallon drum located in the south end of Room 1. The flash point was reported at <62° F, exceeding the RCRA limits for hazardous waste for ignitability.

Sample V-002. The sample was collected from one of the paint immersion vats located in Room 2 (Figure 3-1). Total cyanide was reported at 1.5 mg/L. Total metals for chromium, nickel, and zinc were 19.2 mg/L, 13.8

mg/L, and 12.8 mg/L, respectively.

Sample V-003. The sample was also collected from one of the open paint immersion vats in Room 2. Acetone was detected at 230 parts per billion (ppb); all other volatile organic compounds (VOCs) were negative for this sample.

Sample AS-02. Composite sample AS-02, collected from the pipe insulation in Room 3, contained 65 percent chrysotile, the remainder of sample material being cellulose and binder, according to polarized light microscopy (PLM)/asbestos analysis.

Sample FL-001. Composite sample FL-001 was collected from materials scattered on the floor in Room 1. High levels of total cyanide were reported (1,200 mg/L). Reactive cyanide was reported as non-detect. FL-001 also exhibited hazardous levels of TCLP cadmium at 58 mg/L. Copper, nickel, and zinc TCLP levels were 5.8 mg/L, 230 mg/L, and 240 mg/L, respectively. Other metals that were present at elevated levels include chromium, lead, and mercury (Table 4-1).

Sample BLD-001. Sample BLD-001 was collected outside the building. The sample, collected from the south side of the building outside Room 3, exceeded the RCRA levels for hazardous waste for chromium with a TCLP concentration of 110 mg/L.

Table 4-1**SAMPLE ANALYTICAL RESULTS
AUTODEPOSITION, INC.
CHICAGO, ILLINOIS**

Sample Number	Analysis	Result	Approximate Volume
D-001	Cr TCLP Ni total Ag total Zn total	104,000 mg/L 0.45 mg/L 1.6 mg/L 10.8 mg/L	3,000 Gallons
D-002	Cr TCLP Cd total Cr total Cu total Pb total Ni total Ag total Zn total	194,000 mg/L 220 mg/L 298,000 mg/L 2,820 mg/L 156 mg/L 4,720 mg/L 2.5 mg/L 540 mg/L	5,500 Gallons
D-003	Flash point	<62°F	1,000 Gallons
V-002	CN total Cr total Ni total Zn total	1.5 mg/L 19.2 mg/L 13.8 mg/L 12.8 mg/L	6,000 Gallons
V-003	Total volatiles	230 ppb acetone	6,000 Gallons
AS-02	PLM/asbestos	Chrysotile 65%, remainder cellulose and binder	Unknown

Table 4-1

**SAMPLE ANALYTICAL RESULTS
AUTODEPOSITION, INC.
CHICAGO, ILLINOIS**

Sample Number	Analysis	Result	Approximate Volume
FL-01	CN total	1,200 mg/L	Unknown
	Reactive CN	ND	
	Cd TCLP	58 mg/L	
	Cd total	13,900 mg/kg	
	Cr TCLP	0.01 mg/L	
	Cr total	730 mg/kg	
	Cu TCLP	5.8 mg/L	
	Cu total	9,640 mg/L	
	Pb TCLP	0.11 mg/L	
	Pb total	1,760 mg/L	
	Ni TCLP	230 mg/L	
	Ni total	36,400 mg/L	
	Zn TCLP	240 mg/L	
	Hg total	0.052 ppm	
BLD-001	Cr TCLP	110 mg/L	Unknown

Key:

TCLP = Toxicity characteristic leaching procedure.
ppb = Parts per billion.
PLM = Polarized light microscopy.
mg/L = Milligrams per liter.
mg/kg = Milligrams per kilogram.
°F = Degrees Fahrenheit.

Source: Analysis performed by EIS Environmental Engineers, Inc.
under Analytical TDD T05-9505-809.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Conditions documented at the Autodeposition site that may be used in determining the appropriateness of a removal action as outlined in Section 300.415(b)(2) of the National Contingency Plan (NCP) include:

- **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.**

Access to the site is unrestricted, and entry by vagrants and vandals was demonstrated by the presence of beer bottles and food containers scattered on the floor of the building. Cyanide, as found in floor composite sample FL-001, may be rapidly fatal if inhaled or ingested. Symptoms of exposure include asphyxia; damage to the cardiovascular system, liver, skin, kidneys, and central nervous system; or death. Chromic acid is corrosive on contact or inhalation, and may cause severe irritation of the respiratory system. Chronic symptoms of exposure include skin ulcers and conjunctivitis. The presence of chromic acid on the outside of the building and on the sidewalk next to the building poses an immediate threat to the nearby community. Cadmium, found in high concentrations in floor sample FL-001, is known to cause damage to both the liver and kidneys. Cadmium is a suspected carcinogen, and is also linked to hypertension.

- **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.**

Samples collected by TAT indicate that hazardous materials are present on site. Many of the 55-gallon drums and plating/immersion/pH adjustment vats found on site are open and contain hazardous material. Several drums are overturned, and many are in poor condition, posing the possibility of release. The 5,000-gallon sulfuric acid tank, stored above ground outside the building, is rusting, and, if a release should occur, an immediate threat to the population would occur. The pH of a substance on the ground outside the building was determined to be approximately 13. The presence of leaking drums in this outside area poses an immediate threat of release to the environment.

6. REMOVAL ACTIONS AND ESTIMATED COSTS

A Removal Cost Management System (RCMS) removal cost estimate is included in Appendix C. The costs reflect the conditions observed during the SA and analytical results and volumes presented in Table 4-1 of this report. A total project cleanup cost of \$1,140,579 has been projected to mitigate the immediate threats cited in this report. The following assumptions were used in the preparation of this cost estimate:

- All paint immersion vat solutions containing VOCs will be determined to be compatible based on future TAT compatibility testing and will subsequently be bulked into a truck load (see Table 4-1) and disposed of as hazardous waste.
- All plating solution drums and vats free of reactive cyanide (high cadmium and chromium acidic bath plating solutions) are also expected to be compatible and will be bulked and disposed of as hazardous waste.
- The floor debris that contains cyanide will be placed in drums and disposed of as hazardous waste. The floors will then be decontaminated with a hypochlorite solution.
- The walls and sidewalk, which are contaminated and have deteriorated as a result of chromic acid, will be removed and disposed of as hazardous waste.

APPENDIX A
PHOTOLOGS



SITE NAME: AUTODEPOSITION, INC.

PHOTOGRAPHER: Imes

DIRECTION: Northwest

DATE: 06/01/95

SUBJECT:

TDD #: T05-9505-018

CAMERA: Ritz Quick Snap - 35mm

TIME: 0847

West end of ADI site. A fenced in parking area is adjacent to the on-site building. Hubbard Street borders the site to the South.



SITE NAME: AUTODEPOSITION, INC.

PHOTOGRAPHER: Imes

DATE: 06/01/95

DIRECTION: West

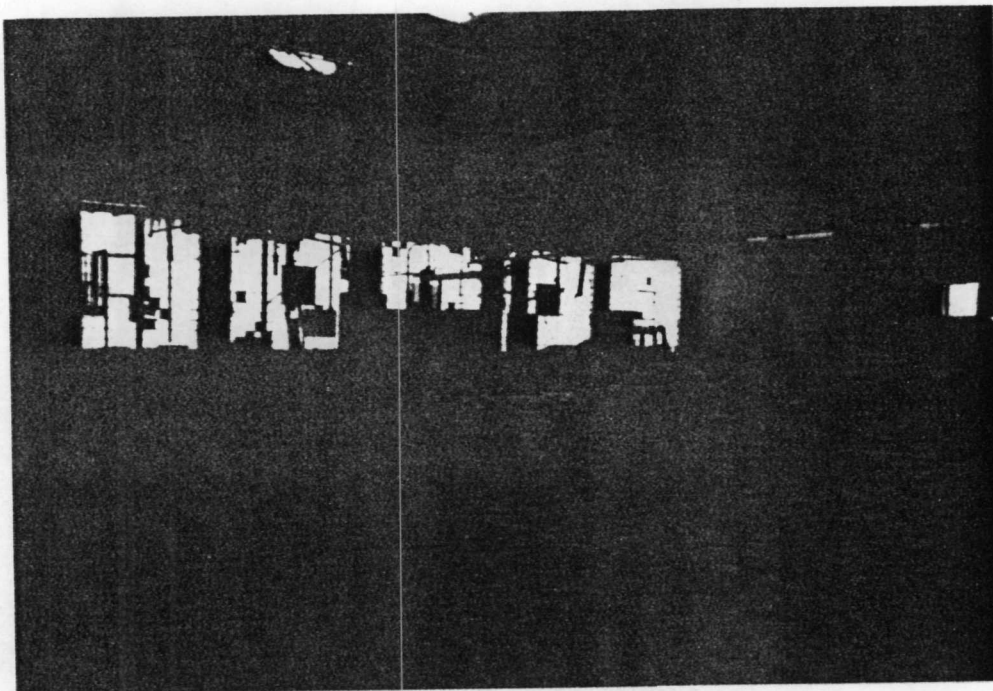
SUBJECT:

TDD #: T05-9505-018

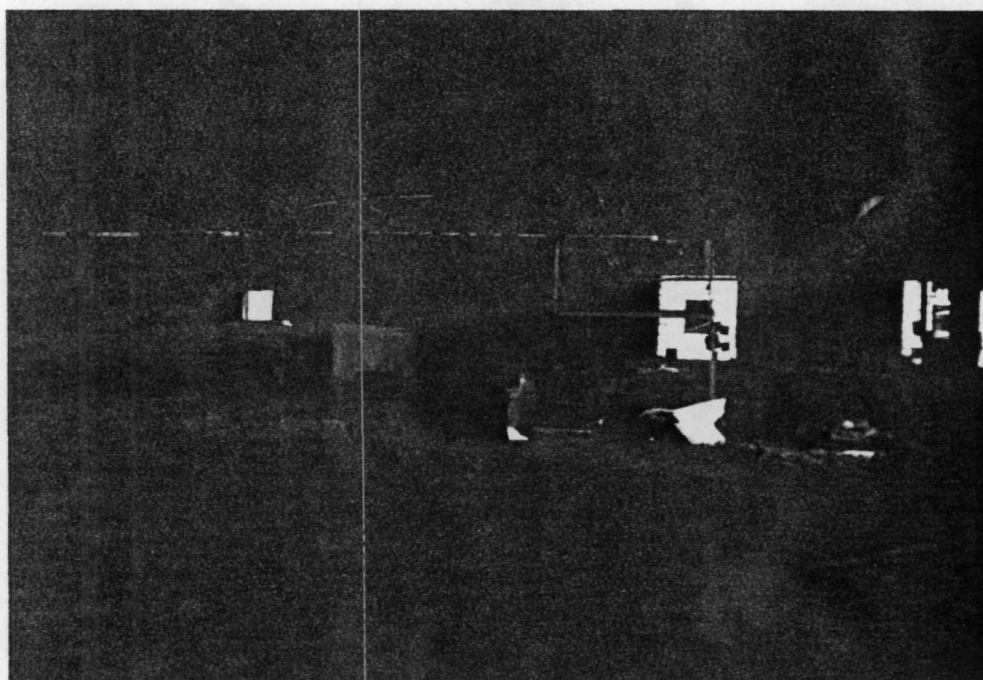
CAMERA: Ritz Quick Snap - 35mm

TIME: 0930

Fenced in area located in the northeast corner of the ADI site. A 5,000-gallon capacity tank, containing approx. 2,500 gallons of sulfuric acid and several drums are located in this area.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Imes CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/01/95 TIME: 1000
 DIRECTION: Southwest
 SUBJECT: Room 1 in on-site building. Room formerly housed zinc, nickel, and copper-cyanide plating line. Vats have been removed, however drums and one-cubic yard boxes are staged in the room.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Imes CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/01/95 TIME: 1005
 DIRECTION: West
 SUBJECT: Room 1 in on-site building. A 2,500-gallon tank containing acid is located adjacent to the west wall. Visible staining on the floors and walls were observed.



SITE NAME: AUTODEPOSITION, INC.

TDD #: T05-9505-018

PHOTOGRAPHER: Imes

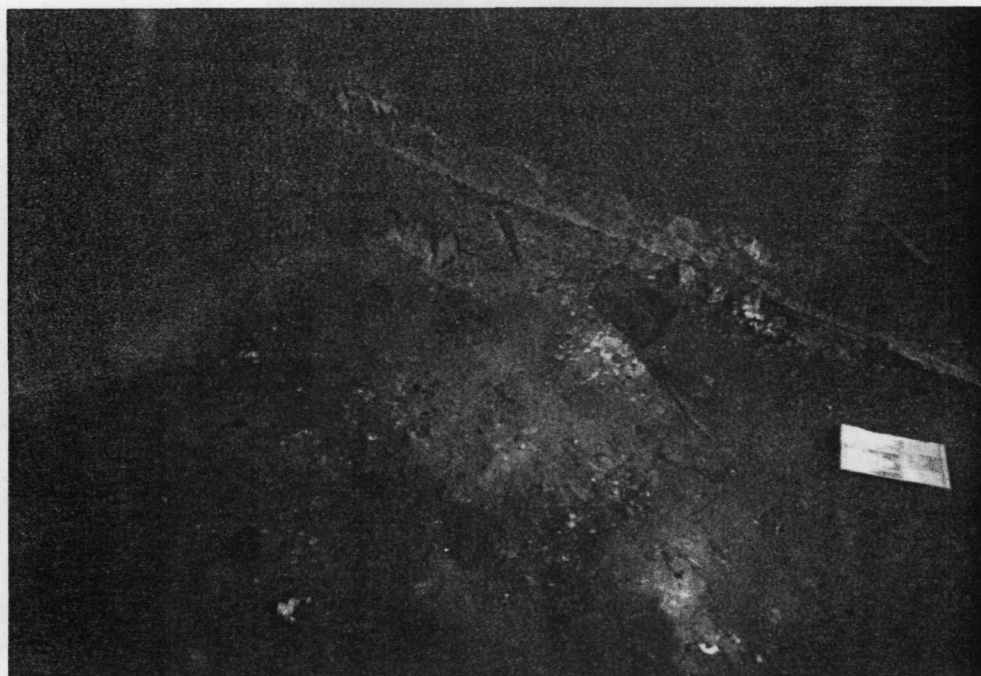
CAMERA: Ritz Quick Snap - 35mm

DATE: 06/01/95

TIME: 1010

DIRECTION: West - Northwest

SUBJECT: Room 1 in on-site building. Several drums containing alkaline zinc, crystallized copper cyanide and nickel black solutions stored in the northwest corner of the room.



SITE NAME: AUTODEPOSITION, INC.

TDD #: T05-9505-018

PHOTOGRAPHER: Imes

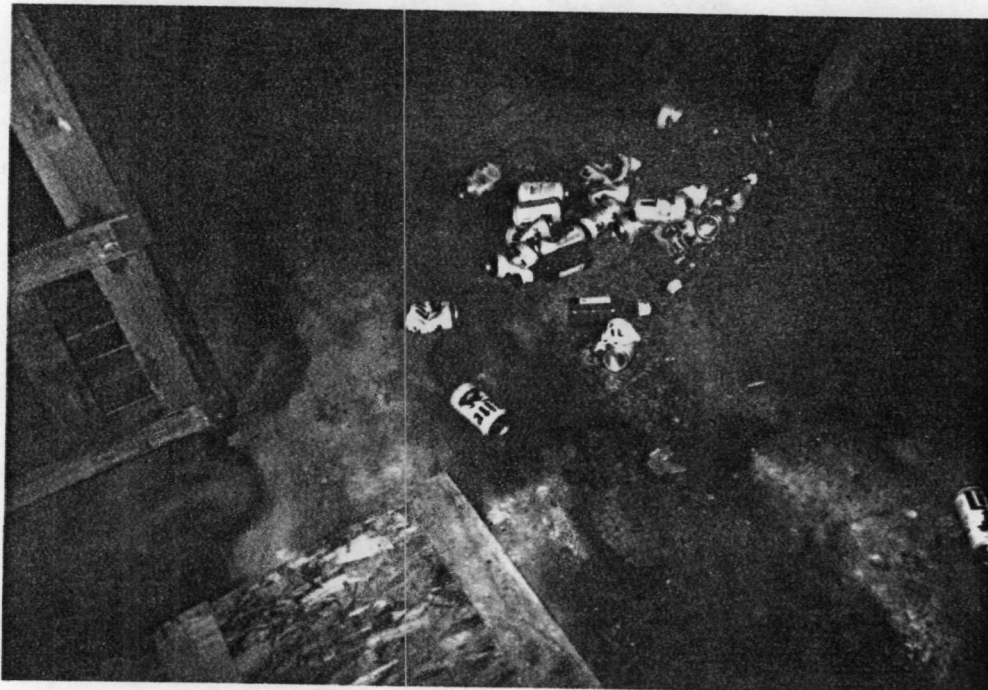
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DATE: 06/01/95

TIME: 1115

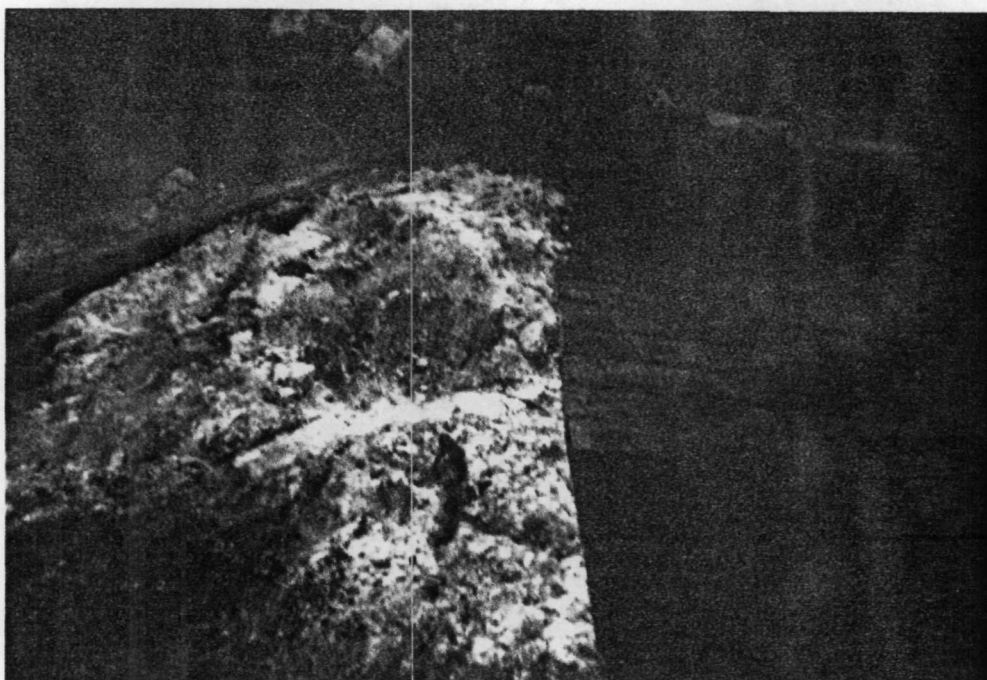
DIRECTION: N/A

SUBJECT: Floor inside of Room 1. Note: visible staining of concrete floor. A composite sample designated as FL-001 was collected from solid material scattered on the floor.



SITE NAME: AUTODEPOSITION, INC.
 PHOTOGRAPHER: Imes
 DATE: 06/01/95
 DIRECTION: Northeast
 SUBJECT: Beer bottles on the floor in Room 2 of the on-site building. Debris and food containers were scattered throughout the room indicating the building is unrestricted to vagrants.

TDD #: 105-9505-016
 CAMERA: Ritz Quick Snap - 35mm
 TIME: 1020



SITE NAME: AUTODEPOSITION, INC.
 PHOTOGRAPHER: Imes
 DATE: 06/01/95
 DIRECTION: N/A
 SUBJECT: Room 3 of the on-site building. White-powder material was scattered throughout the floor.

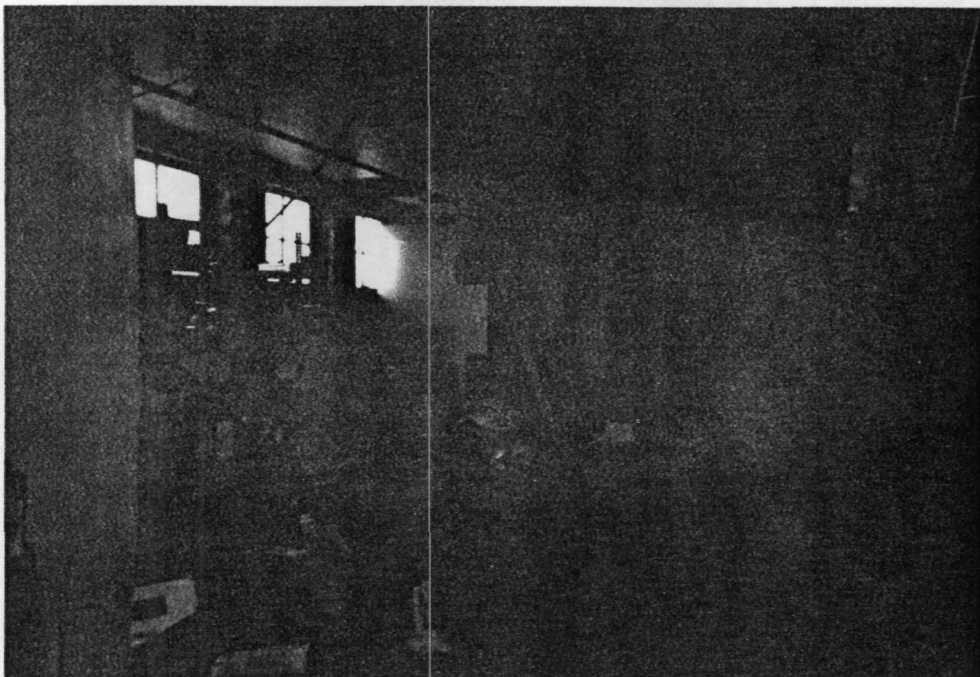
TDD #: T05-9505-018
 CAMERA: Ritz Quick Snap - 35mm
 TIME: 1030



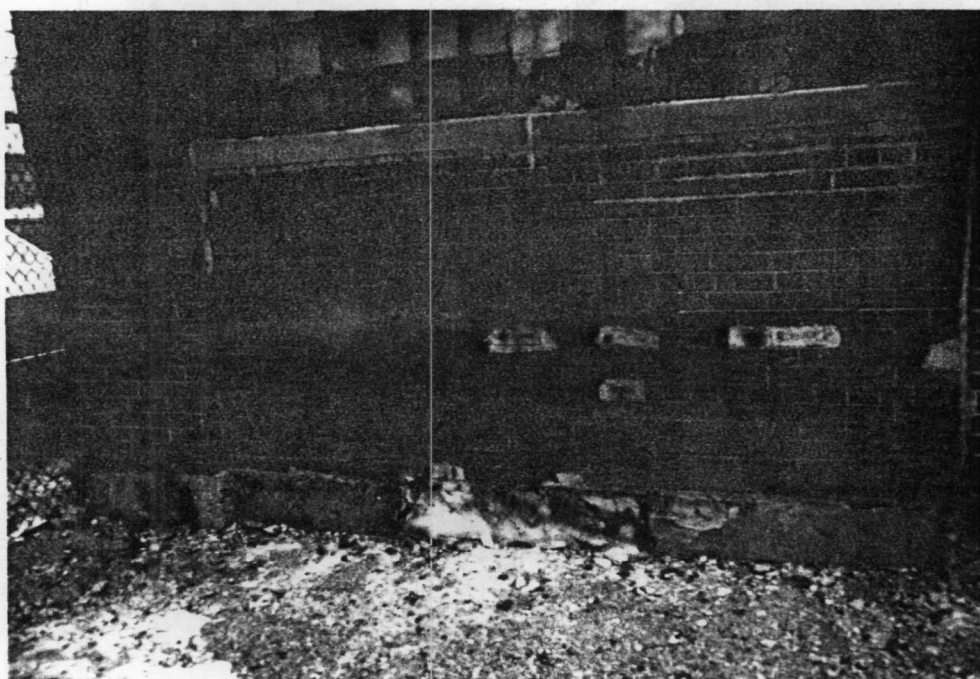
SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Imes CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/01/95 TIME: 1035
 DIRECTION: East - South east
 SUBJECT: Room 3 containing over 100 drums of chromic acid solution and over 50 Vats.
 Room formerly housed the chrome plating line. Several vats contain material.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Imes CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/01/95 TIME: 1040
 DIRECTION: South
 SUBJECT: Chromic acid on floor in room 3 of on-site building. Several drums appeared to be
 leaking their contents onto the floor. Solution revealed a pH of < 1 standard unit.



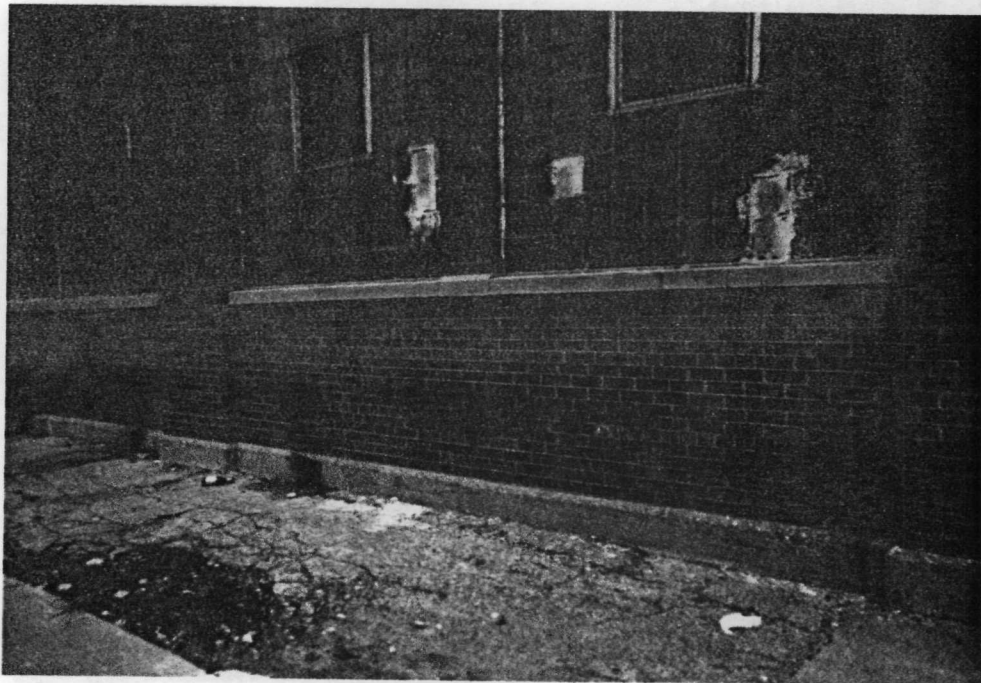
SITE NAME:	AUTODEPOSITION, INC.	TDD #:	T05-9505-018
PHOTOGRAPHER:	Imes	CAMERA:	Ritz Quick Snap - 35mm
DATE:	06/01/95	TIME:	1230
DIRECTION:	South		
SUBJECT:	Second level of on-site building. Upstairs utilized as locker rooms contains records generated during on-site operations.		



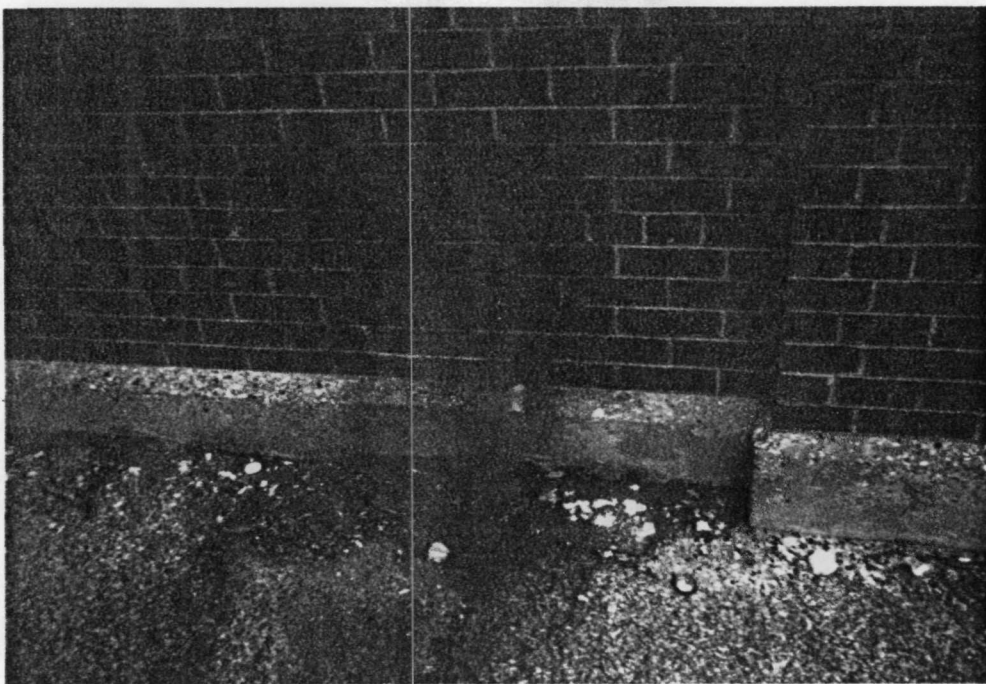
SITE NAME:	AUTODEPOSITION, INC.	TDD #:	T05-9505-018
PHOTOGRAPHER:	Brooks	CAMERA:	Ritz Quick Snap - 35mm
DATE:	06/02/95	TIME:	1300
DIRECTION:	North		
SUBJECT:	South side and west end of ADI site. Note staining of brick.		



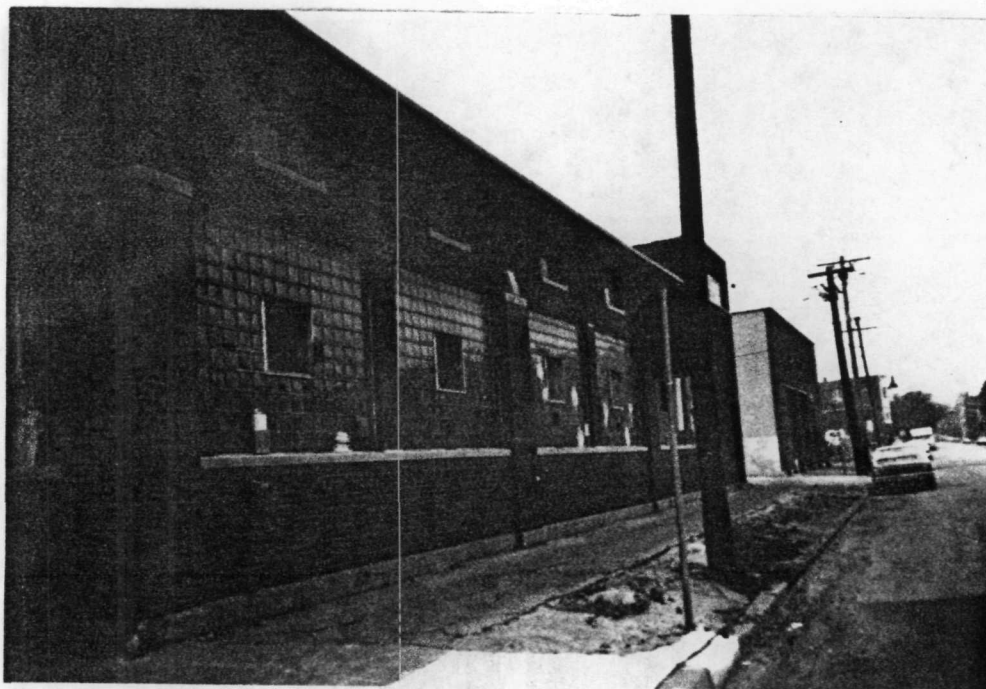
SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1303
 DIRECTION: North
 SUBJECT: South side of ADI site at the center of the building. Note staining of brick and deterioration of the structure.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1305
 DIRECTION: North-Northwest
 SUBJECT: South side of ADI site at east end of building. Note staining of brick and broken windows.



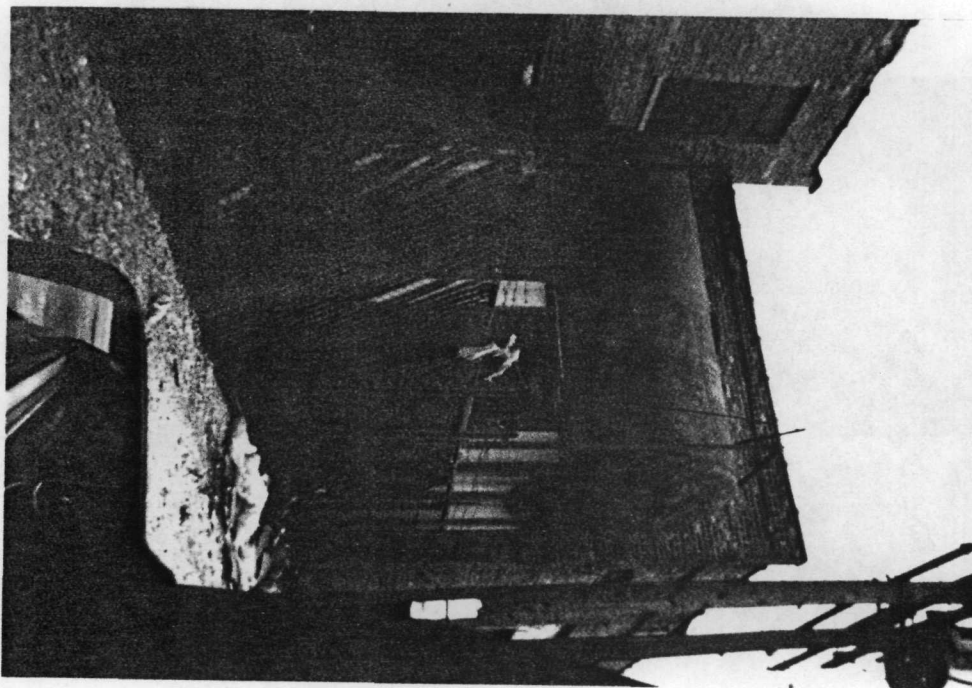
SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1307
 DIRECTION: North
 SUBJECT: Closer view of staining of brick and sidewalk on the south side of the ADI site.



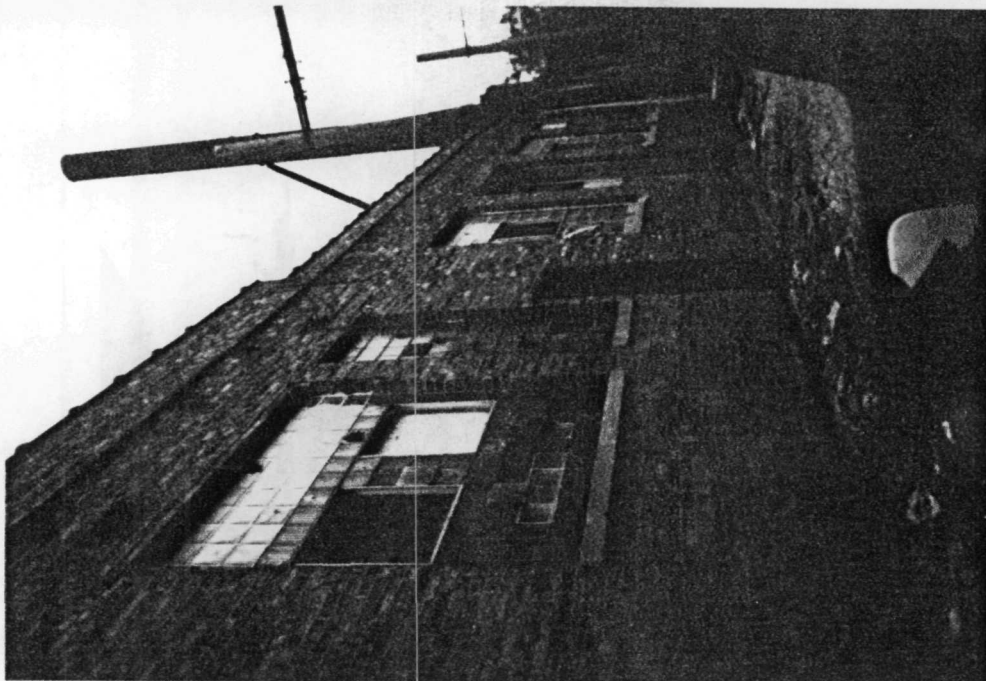
SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1313
 DIRECTION: Northwest
 SUBJECT: East end of ADI site. Armour Street borders the site to the east and Hubbard street borders the site to the south.



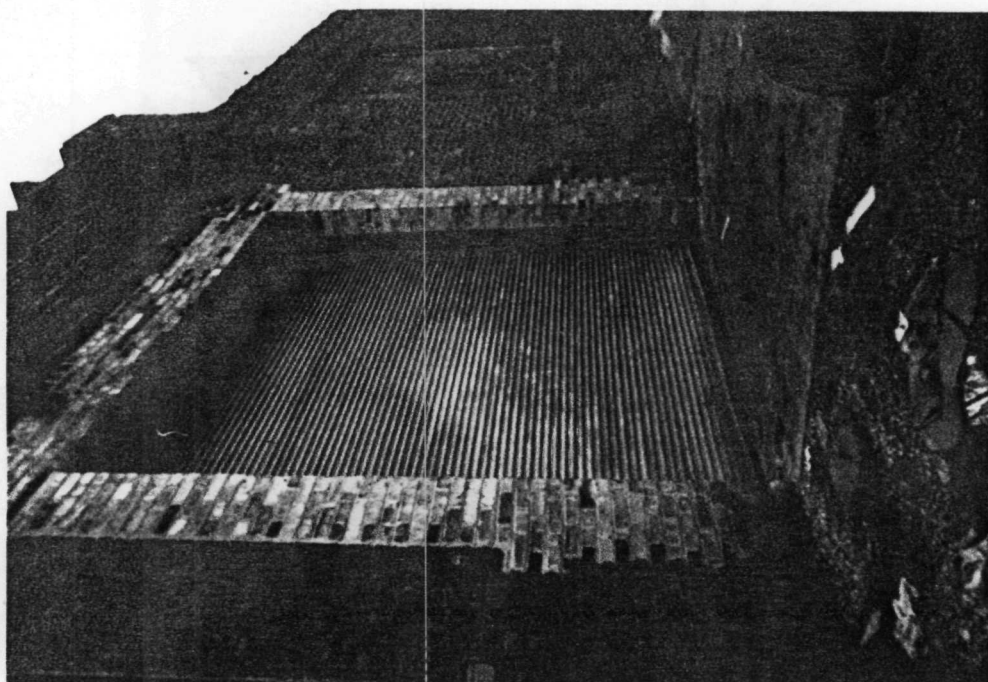
SITE NAME:	AUTODEPOSITION, INC.	TDD #:	T05-9505-018
PHOTOGRAPHER:	Brooks	CAMERA:	Ritz Quick Snap - 35mm
DATE:	06/02/95	TIME:	1315
DIRECTION:	Southwest		
SUBJECT:	Outside yard on the North side of ADI site which is bordered by an alley.		



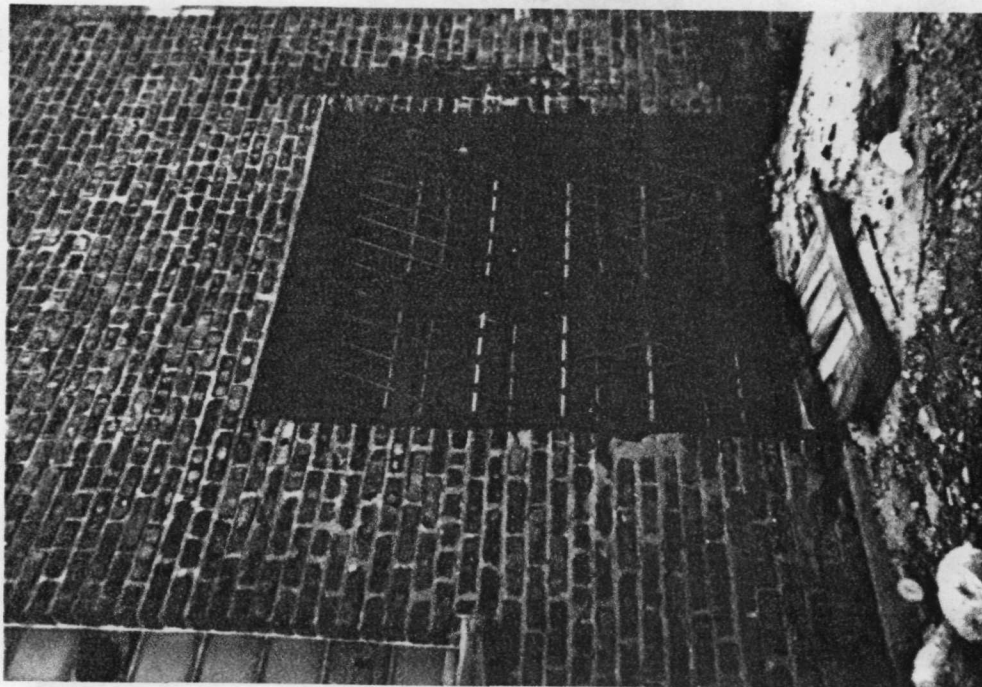
SITE NAME:	AUTODEPOSITION, INC.	TDD #:	T05-9505-018
PHOTOGRAPHER:	Brooks	CAMERA:	Ritz Quick Snap - 35mm
DATE:	06/02/95	TIME:	1317
DIRECTION:	West-Southwest		
SUBJECT:	5000 Gallon Sulfuric Acid Tank in outside yard.		



SITE NAME:	AUTODEPOSITION, INC.	TDD #:	T05-9505-018
PHOTOGRAPHER:	Brooks	CAMERA:	Ritz Quick Snap - 35mm
DATE:	06/02/95	TIME:	1320
DIRECTION:	West		
SUBJECT:	North side of ADI site. Note broken windows.		



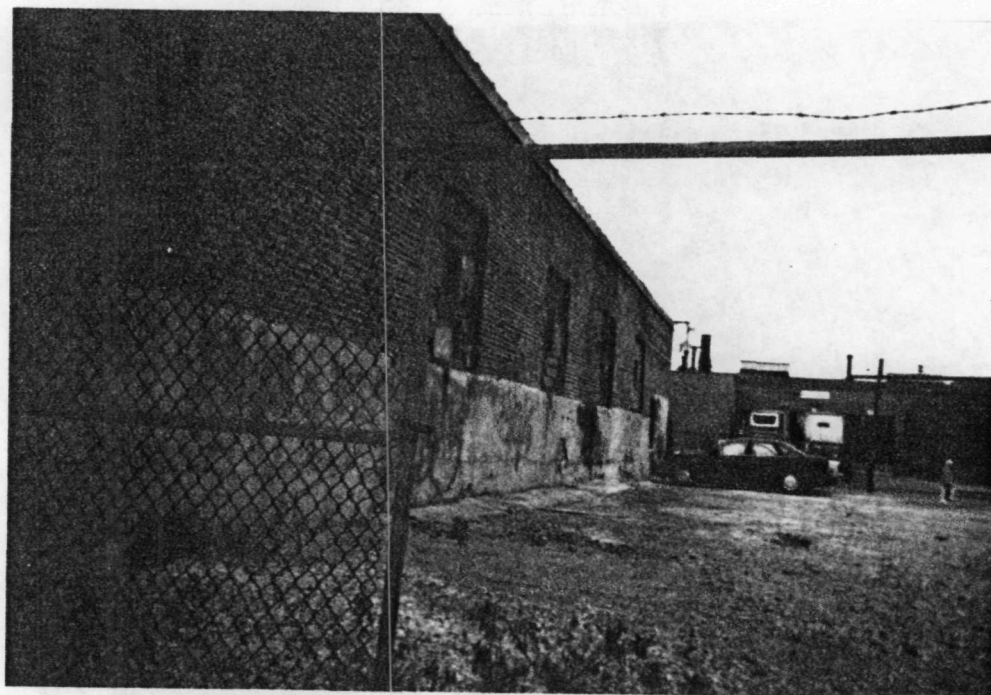
SITE NAME:	AUTODEPOSITION, INC.	TDD #:	T05-9505-018
PHOTOGRAPHER:	Brooks	CAMERA:	Ritz Quick Snap - 35mm
DATE:	06/02/95	TIME:	1324
DIRECTION:	Southwest - West		
SUBJECT:	Overhead door on North side of ADI site. Note debris scattered throughout the alley and that the door has been pryed open.		



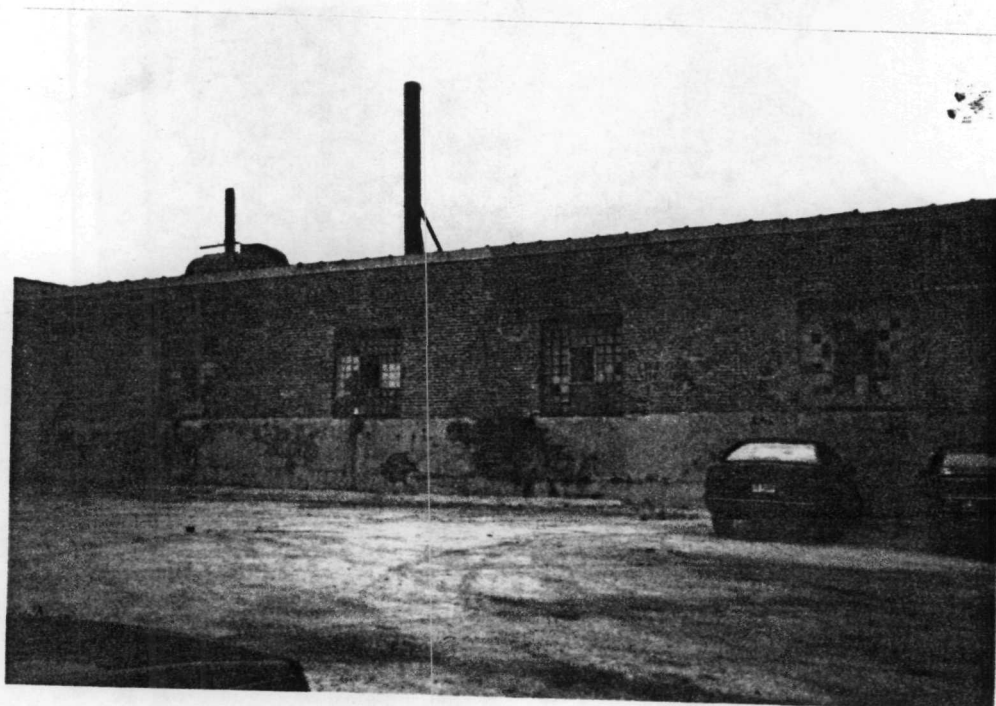
SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1328
 DIRECTION: Southwest
 SUBJECT: Door on North side of ADI site. Note burned wood and deteriorating structure.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1330
 DIRECTION: Southwest
 SUBJECT: North side of ADI site. Note broken and boarded windows.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1335
 DIRECTION: Southeast
 SUBJECT: West end of ADI site. A fenced in parking area and outside wall of ADI site. Note staining of wall in several areas.



SITE NAME: AUTODEPOSITION, INC. TDD #: T05-9505-018
 PHOTOGRAPHER: Brooks CAMERA: Ritz Quick Snap - 35mm
 DATE: 06/02/95 TIME: 1340
 DIRECTION: East
 SUBJECT: West side of ADI site. Note broken windows and stained walls.

APPENDIX B
ANALYTICAL DATA



ecology and environment, inc.

International Specialists in the Environment

111 West Jackson Boulevard

Chicago, Illinois 60604

Tel: (312) 663-9415, Fax: (312) 663-0791

M E M O R A N D U M

DATE: September 8, 1995

TO: Adam Garlapow, TAT Project Manager, E & E, Chicago, Illinois

FROM: Emily S. Landis, TAT Geochemist, E & E, Cleveland, Ohio

THROUGH: Anne A. Busher, Assistant TAT Leader, Cleveland, Ohio
David Hendren, TAT Analytical Services Manager, E & E, Chicago, Illinois
Mary J. Ripp, TAT QA Reports Manager, E & E, Chicago, Illinois

SUBJECT: Wet Chemistry Data Quality Assurance Review, Auto Deposition, Inc., Chicago, Cook County, Illinois

REFERENCE: Project TDD T05-9505-018 Analytical TDD T05-9505-809
Project PAN EIL0889SAA Analytical PAN EIL0889AAA

The data quality assurance (QA) review for four samples collected from the Auto Deposition, Inc. site is complete. The samples were collected on June 1, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to EIS Environmental Engineers, Inc., South Bend, Indiana, to be tested for pH and flash point. The laboratory analyses were performed according to the procedures set forth in the United States Environmental Protection Agency (U.S. EPA) Solid Waste (SW)-846 Methods 9040 and 1010, respectively.

Sample Identification

<u>TAT</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
D-001	26611
D-002	26612
D-003	26613
V-002	26614

Data Qualifications

I. Instrument Calibration: Acceptable

The flash point tester and the pH meter were standardized before taking measurements on the samples. Flash point results were corrected for barometric pressure.

II. Overall Assessment of Data: Acceptable

The report is evaluated on the basis of criteria established in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01, Quality Assurance/Quality Control Guidance for Removal Activities, (1990), and the reviewer's professional experience. No guidance specific on flash point or pH testing is provided in OSWER 9360.4-01. Based on the data provided, the results are acceptable for use as reported.



ecology and environment, inc.

International Specialists in the Environment

111 West Jackson Boulevard
Chicago, Illinois 60604
Tel: (312) 663-9415, Fax: (312) 663-0791

MEMORANDUM

DATE: September 8, 1995

TO: Adam Garlapow, TAT Project Manager, E & E, Chicago, Illinois

FROM: Emily S. Landis, TAT Geochemist, E & E, Cleveland, Ohio

THROUGH: Anne A. Busher, Assitant TAT Leader, E & E, Cleveland, Ohio
David Hendren, TAT Analytical Services Manager, E & E, Chicago, Illinois
Mary J. Ripp, TAT QA Reports Manager, E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Assurance Review, Auto Deposition, Inc., Chicago, Cook County, Illinois

REFERENCE: Project TDD T05-9505-018 Analytical TDD T05-9505-809
Project PAN EIL0889SAA Analytical PAN EIL0889AAA

The data quality assurance (QA) review of three liquids and two discrete solid samples, collected from the Auto Deposition, Inc. site, is complete. The samples were collected on June 1, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to EIS Environmental Engineers, Inc. (EIS), South Bend, Indiana, for analysis. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste (SW)-846 Methods 6010 and 7470 for the determination of Resource Conservation and Recovery Act (RCRA) metals plus copper, nickel, and zinc. The samples were also subjected to Toxicity Characteristic Leaching Procedure (TCLP), Method 1311, prior to analysis. Results for the solid samples were reported on a wet-weight basis. Two samples were also distilled for cyanide analysis in accordance with SW-846 Method 9010/9030.

Sample Identification

<u>TAT Identification No.</u>	<u>Laboratory Identification No.</u>
D-001	26611
D-002	26612
V-002	26614
FL-01	26617
BLD-001	26618

Data Qualifications

I. Sample Holding Times: Acceptable

All the samples were digested and analyzed within the six-month holding time limit (28 days for mercury and 14 days for cyanide).

II. Initial and Continuing Calibration Verification: Acceptable

Calibration standards and blanks were analyzed at the beginning of the analysis, as required. Samples with results 110 percent or greater than the highest standard were diluted and reanalyzed. Samples D-002 and FL-001 were analyzed by the method of standard additions for metals.

Method 6010 (ICP) standard values were within the range of 90 to 110 percent of their mean values. Calibration data for Method 7470 (mercury) were not furnished; however, none of the samples had results above the detection limit. (Total cyanide standard results were not furnished.)

III. Blanks: Acceptable

Method blanks were prepared and analyzed with the samples, as required. Percent recoveries for the laboratory control samples were within the method quality control (QC) limits. Analyte concentrations were below reported detection limits.

IV. ICP Interference Check Samples: Qualified

Interference check sample (ICS) results were not reported.

V. Analytical Error: Precision and Bias Not Determined

Matrix spike sample analyses indicated that relative percent differences in results were less than or equal to 15 percent. Percent recovery of mercury was within the method limit.

VI. Quantitation and Reported Detection Limits: Acceptable

The laboratory reported that the detection limits were adjusted for dilutions made, but documentation or raw data were not included.

VII. Overall Assessment of Data: Qualified

This data evaluation is based on criteria established in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01, Quality Assurance/Quality Control Guidance for Removal Activities, (1990), and U.S. EPA SW-846 Methods listed above. Based on the data provided, the results may be used, with the following qualifications.

Data Validation Qualifiers

- J - The associated numerical data are estimated because not all quality control criteria were met.



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95**EIS Lab No:** 26611**EIS Project No:** 2009-8997**EIS Priority:** 2**Client P.O.#:** TO5 9505 809**Certification:** Indiana Drinking Water Certificate No. C-71-02**Invoice To:**

Client

SAMPLE IDENTIFICATION

Sample ID: D 001 (Liquid)
Drum Room 1

Date Sampled:**Date Received:** 6-02-95**Report To:** CLIENT**Extra Report To:**

<u>PARAMETER</u>	<u>UNITS</u>	<u>RESULT</u>	<u>DL</u>	<u>TEST DATE</u>	<u>ANALYST</u>
pH	SU	1.4		06-13-95	Wright,C
Arsenic, Total	mg/l	<5	5	06-13-95	Clear,N
Barium, Total	mg/l	<0.2	0.2	06-13-95	Clear,N
Cadmium, Total	mg/l	<1	1	06-13-95	Clear,N
Chromium, TCLP	mg/l	104,000	500	06-14-95	Clear,N
Chromium, Total	mg/l	104,000	200	06-13-95	Clear,N
Copper, Total	mg/l	<0.2	0.2	06-13-95	Clear,N
Lead, Total	mg/l	<5	5	06-13-95	Clear,N
Mercury, Total	mg/l	<0.0004	0.0004	06-15-95	Shane,D
Nickel, Total	mg/l	0.45	0.2	06-13-95	Clear,N
Selenium, Total	mg/l	<5	5	06-13-95	Clear,N
Silver, Total	mg/l	1.60	0.2	06-13-95	Clear,N
Zinc, Total	mg/l	10.8	0.2	06-13-95	Clear,N
Mercury Digestion				06-13-95	Shane,D
Metals Digestion (ICP)				06-12-95	Shane,D
Metals Digestion ICP, TCLP				06-13-95	Shane,D


QUALITY ASSURANCE OFFICER


LABORATORY DIRECTOR

EIS Lab No: 26611(continued)

<u>PARAMETER</u>	<u>UNITS</u>	<u>RESULT</u>	<u>TEST</u> <u>DATE</u>	<u>ANALYST</u>
TCLP Extract Formation				
Extraction Started			06-10-95	Wright,C
Extraction Completed			06-10-95	Wright,C
Solids Content	percent	0.49		
Sample Weight Extracted	grams	324.0		
Filter Used (Whatman)	type	GF/F		
Initial pH	SU	NA		
pH After Acid Addition	SU	NA		
Extraction Fluid Used	number	NA		
Extraction Fluid Amount	ml	NA		
Extraction Fluid pH	SU	NA		
Final Extract pH (18hrs)	SU	1.4		

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Reference Analytical Methods are enclosed.
3. Sample was iced upon receipt.
4. < = Not Detected at the Detection Limit (DL) shown.
5. DL = Detection Limit and is adjusted for dilutions/concentrations.



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95**EIS Lab No:** 26612**EIS Project No:** 2009-8997**EIS Priority:** 2**Client P.O.#:** TO5 9505 809**Certification:** Indiana Drinking Water Certificate No. C-71-02**Invoice To:**

Client

SAMPLE IDENTIFICATION

Sample ID: D 002 (Liquid)
Drum Room 3

Date Sampled:**Date Received:** 6-02-95**Report To:** CLIENT**Extra Report To:**

<u>PARAMETER</u>	<u>UNITS</u>	<u>RESULT</u>	<u>DL</u>	<u>TEST DATE</u>	<u>ANALYST</u>
pH	SU	1.2		06-13-95	Wright,C
Arsenic, Total	mg/l	<50	50	06-13-95	Clear,N
Barium, Total	mg/l	36.2	1	06-13-95	Clear,N
Cadmium, Total	mg/l	220	1	06-13-95	Clear,N
Chromium, TCLP	mg/l	194,000	1000	06-13-95	Clear,N
Chromium, Total	mg/l	298,000	1000	06-13-95	Clear,N
Copper, Total	mg/l	2,820	10	06-13-95	Clear,N
Lead, Total	mg/l	156	1	06-13-95	Clear,N
Mercury, Total	mg/l	<0.0004	0.0004	06-15-95	Shane,D
Nickel, Total	mg/l	4,720	10	06-13-95	Clear,N
Selenium, Total	mg/l	<50	50	06-13-95	Clear,N
Silver, Total	mg/l	2.49	1	06-13-95	Clear,N
Zinc, Total	mg/l	540	1	06-13-95	Clear,N
Mercury Digestion				06-13-95	Shane,D
Metals Digestion (ICP)				06-12-95	Shane,D
Metals Digestion ICP, TCLP				06-13-95	Shane,D


QUALITY ASSURANCE OFFICER
LABORATORY DIRECTOR

<u>PARAMETER</u>	<u>UNITS</u>	<u>RESULT</u>	<u>TEST</u> <u>DATE</u>	<u>ANALYST</u>
TCLP Extract Formation				
Extraction Started			06-12-95	Wright,C
Extraction Completed			06-13-95	Wright,C
Solids Content	percent	2.4		
Sample Weight Extracted	grams	9.23		
Filter Used (Whatman)	type	GF/F		
Initial pH	SU	1.2		
pH After Acid Addition	SU	NA		
Extraction Fluid Used	number	1		
Extraction Fluid Amount	ml	180		
Extraction Fluid pH	SU	4.94		
Final Extract pH (18hrs)	SU	1.7		

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Reference Analytical Methods are enclosed.
3. Sample was iced upon receipt.
4. < = Not Detected at the Detection Limit (DL) shown.
5. DL = Detection Limit and is adjusted for dilutions/concentrations.



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95**EIS Lab No:** 26613**EIS Project No:** 2009-8997**EIS Priority:** 2**Client P.O.#:****Certification:** Indiana Drinking Water Certificate No. C-71-02**Invoice To:**

Client

SAMPLE IDENTIFICATION**Sample ID:** D 003 (Liquid)
Drum Room 1**Date Sampled:****Date Received:** 6-02-95**Report To:** CLIENT**Extra Report To:****PARAMETER****UNITS****RESULT****DL****TEST****DATE****ANALYST**

Flash Point (Closed Cup)

fahrenheit

<62

62

06-12-95 Wright,C

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Reference Analytical Methods are enclosed.
3. Sample was iced upon receipt.
4. < = Not Detected at the Detection Limit (DL) shown.
5. DL = Detection Limit and is adjusted for dilutions/concentrations.


QUALITY ASSURANCE OFFICER
LABORATORY DIRECTOR



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95**EIS Lab No:** 26618**EIS Project No:** 2009-8997**EIS Priority:** 2**Client P.O.#:****Certification:** Indiana Drinking Water Certificate No. C-71-02**Invoice To:**

Client

SAMPLE IDENTIFICATION

Sample ID: BLD - 001 (Solid)
South Side Bldg / Room 3 Outside

Date Sampled:**Date Received:** 6-02-95**Report To:** CLIENT**Extra Report To:**

<u>PARAMETER</u>	<u>UNITS</u>	<u>RESULT</u>	<u>DL</u>	<u>TEST DATE</u>	<u>ANALYST</u>	<u>QUALITY CONTROL</u>				
						<u>RSD %</u>	<u>SPIKE LEVEL</u>	<u>MS %R</u>	<u>DMS %R</u>	<u>RPD %</u>
Chromium, TCLP	mg/l	110	0.1	06-12-95	Clear, N	0.40	118	112	5.2	
TCLP Extract Formation										
Extraction Started				06-07-95	Wright, C					
Extraction Completed				06-08-95	Wright, C					
Solids Content	percent	100								
Sample Weight Extracted	grams	100.0								
Filter Used (Whatman)	type	GF/F								
Initial pH	SU	8.8								
pH After Acid Addition	SU	5.6								
Extraction Fluid Used	number	2								
Extraction Fluid Amount	ml	2,000								
Extraction Fluid pH	SU	2.88								
Final Extract pH (18hrs)	SU	7.4								


QUALITY ASSURANCE OFFICER
LABORATORY DIRECTOR

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Reference Analytical Methods are enclosed.
3. Sample was iced upon receipt.
4. Sample container(s) were properly preserved per USEPA protocols.
5. < = Not Detected at the Detection Limit (DL) shown.
6. DL = Detection Limit and is adjusted for dilutions/concentrations.
7. Quality Control definitions are as follows:
 - Spike Level = Parameter Spike amount in units of the result.
 - %R = Matrix Spike(MS)/Duplicate Matrix Spike(DMS) recovery.
 - %RPD = Precision of Matrix Spike recovery values.



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95**EIS Lab No:** 26614**EIS Project No:** 2009-8997**EIS Priority:** 2**Client P.O.#:** TO5 9505 809**Certification:** Indiana Drinking Water Certificate No. C-71-02**Invoice To:**

Client

SAMPLE IDENTIFICATION

Sample ID: V 002 (Liquid)
Vat West Line Room 2

Date Sampled:**Date Received:** 6-02-95**Report To:** CLIENT**Extra Report To:**

<u>PARAMETER</u>	<u>UNITS</u>	<u>RESULT</u>	<u>DL</u>	<u>TEST DATE</u>	<u>ANALYST</u>
Cyanide, Reactive	mg/l	<0.3	0.3	06-13-95	Wright, C
Cyanide, Total	mg/l	1.5	1.5	06-12-95	Wright, C
pH	SU	11.4		06-14-95	Wright, C
Arsenic, Total	mg/l	2.7	0.1	06-14-95	Clear, N
Barium, Total	mg/l	0.04	0.02	06-14-95	Clear, N
Cadmium, Total	mg/l	0.14	0.02	06-14-95	Clear, N
Chromium, Total	mg/l	19.2	0.02	06-14-95	Clear, N
Copper, Total	mg/l	0.65	0.02	06-14-95	Clear, N
Lead, Total	mg/l	0.12	0.1	06-14-95	Clear, N
Mercury, Total	mg/l	<0.0004	0.0004	06-15-95	Shane, D
Nickel, Total	mg/l	13.8	0.02	06-14-95	Clear, N
Selenium, Total	mg/l	<0.5	0.5	06-14-95	Clear, N
Silver, Total	mg/l	<0.02	0.02	06-14-95	Clear, N
Zinc, Total	mg/l	128	1	06-14-95	Clear, N
Cyanide Distillation(Reactive)				06-13-95	Wright, C
Cyanide Distillation(Total)				06-12-95	Wright, C
Mercury Digestion				06-13-95	Shane, D
Metals Digestion (ICP)				06-12-95	Shane, D


QUALITY ASSURANCE OFFICER
LABORATORY DIRECTOR

EIS Lab No: 26614(continued)

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Reference Analytical Methods are enclosed.
3. Sample was iced upon receipt.
4. < = Not Detected at the Detection Limit (DL) shown.
5. DL = Detection Limit and is adjusted for dilutions/concentrations.



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date:

6-22-95

EIS Lab No:

26617

EIS Project No:

2009-8997

EIS Priority:

2

Client P.O.#:

TO5 9505 809

Certification:

Indiana Drinking Water Certificate No. C-71-02

Invoice To:

Client

SAMPLE IDENTIFICATION**Sample ID:**

FL-001 (Solid)

Floor Room 1 - Vat Pit

Date Sampled:

Date Received: 6-02-95

Report To: CLIENT**Extra Report To:**

PARAMETER	UNITS	RESULT	DL	TEST DATE	ANALYST	QUALITY CONTROL				
						RSD %	SPIKE LEVEL %	MS %R	DMS %R	RPD %
Cyanide, Reactive	mg/kg(wet)	<1.4	1.4	06-13-95	Wright, C	0				
Cyanide, Total	mg/kg(wet)	1300	6.7	06-12-95	Wright, C	23				
Moisture	percent	17		06-20-95	Szkarlat, M					
Arsenic, TCLP	mg/l	0.06	0.05	06-12-95	Clear, N	12				
Arsenic, Total	mg/kg(wet)	<15	15	06-14-95	Nye, D					
Barium, TCLP	mg/l	0.23	0.01	06-12-95	Clear, N	0				
Barium, Total	mg/kg(wet)	68.0	0.5	06-14-95	Clear, N					
Cadmium, TCLP	mg/l	57.6	0.5	06-12-95	Clear, N	0.4				
Cadmium, Total	mg/kg(wet)	13,900	50	06-14-95	Clear, N					
Chromium, TCLP	mg/l	0.01	0.01	06-12-95	Clear, N	10				
Chromium, Total	mg/kg(wet)	730	1.25	06-14-95	Clear, N					
Copper, TCLP	mg/l	5.82	0.01	06-12-95	Clear, N	0.4				
Copper, Total	mg/kg(wet)	9,640	50	06-14-95	Clear, N					
Lead, TCLP	mg/l	0.11	0.05	06-12-95	Clear, N	13				
Lead, Total	mg/kg(wet)	1,760	250	06-14-95	Clear, N					
Mercury, TCLP	mg/l	<0.0002	0.0002	06-15-95	Shane, D					
Mercury, Total	mg/kg(wet)	0.052	0.04	06-15-95	Shane, D	1.4	0.0005	97	96	1.0
Nickel, TCLP	mg/l	230	5	06-12-95	Clear, N	0				
Nickel, Total	mg/kg(wet)	36,400	50	06-14-95	Clear, N					
Selenium, TCLP	mg/l	<0.05	0.05	06-12-95	Clear, N	0				
Selenium, Total	mg/kg(wet)	<5	5	06-14-95	Nye, D					

2
7/5/95

QUALITY ASSURANCE OFFICER

LABORATORY DIRECTOR

EIS Lab No: 26617(continued)

PARAMETER	UNITS	RESULT	DL	TEST DATE	ANALYST	QUALITY CONTROL				
						RSD %	SPIKE LEVEL	MS %R	DMS %R	RPD %
Silver, TCLP	mg/l	<0.01	0.01	06-12-95	Clear, N	0				
Silver, Total	mg/kg(wet)	<0.7	0.7	06-14-95	Clear, N					
Zinc, TCLP	mg/l	240	5	06-12-95	Clear, N	0				
Zinc, Total	mg/kg(wet)	15,400	50	06-14-95	Clear, N					
				06-13-95	Shane, D					
Mercury Digestion				06-13-95	Shane, D					
Mercury Digestion, TCLP				06-12-95	Shane, D					
Metals Digestion (ICP)				06-09-95	Shane, D					
Metals Digestion ICP, TCLP										
TCLP Extract Formation				06-07-95	Wright, C					
Extraction Started				06-08-95	Wright, C					
Extraction Completed										
Solids Content	percent	100								
Sample Weight Extracted	grams	100.1								
Filter Used (Whatman)	type	GF/F								
Initial pH	SU	8.3								
pH After Acid Addition	SU	4.6								
Extraction Fluid Used	number	1								
Extraction Fluid Amount	ml	2,000								
Extraction Fluid pH	SU	4.88								
Final Extract pH (18hrs)	SU	6.2								

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Sample was iced upon receipt.
3. < = Not Detected at the Detection Limit (DL) shown.
4. DL = Detection Limit and is adjusted for dilutions/concentrations.
5. Quality Control definitions are as follows:
 %RSD = Precision of replicate analysis for this sample.
 Spike Level = Parameter Spike amount in units of the result.
 %R = Matrix Spike(MS)/Duplicate Matrix Spike(DMS) recovery.
 %RPD = Precision of Matrix Spike recovery values.



ecology and environment, inc.

International Specialists in the Environment

111 West Jackson Boulevard

Chicago, Illinois 60604

Tel: (312) 663-9415, Fax: (312) 663-0791

M E M O R A N D U M

DATE: September 8, 1995

TO: Adam Garlapow, TAT Project Manager, E & E, Chicago, Illinois

FROM: Emily S. Landis, TAT Geochemist, E & E, Cleveland, Ohio

THROUGH: Anne A. Busher, Assistant TAT Leader, Cleveland, Ohio
David Hendren, TAT Analytical Services Manager, E & E, Chicago, Illinois
Mary J. Ripp, TAT QA Reports Manager, E & E, Chicago, Illinois

SUBJECT: Bulk Asbestos Data Quality Assurance Review, Auto Deposition, Inc., Chicago, Cook County, Illinois

REFERENCE: Project TDD T05-9505-018 Analytical TDD T05-9505-809
Project PAN EIL0889SAA Analytical PAN EIL0889AAA

The data quality assurance (QA) review of one fibrous sample collected from the Auto Deposition, Inc. site is complete. The sample was collected on June 1, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to EIS Environmental Engineers, Inc., South Bend, Indiana, for polarized light microscopic (PLM) analysis. The laboratory analysis was performed according to the procedures set forth in the United States Environmental Protection Agency (U.S. EPA) Interim Method #EPA-600/M4-82-020 (December 1982) and the National Institute of Occupational Safety and Health (NIOSH) Method 7403.

Sample Identification

<u>TAT</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
AS-02	26616

Data Qualifications

I. Overall Assessment of Data: Acceptable

The report is evaluated on the basis of criteria established in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01, Quality Assurance/Quality Control Guidance for Removal Activities (1990), and the reviewer's professional experience. No guidance specific on PLM analysis of asbestos is provided in OSWER 9360.4-01. Based on the data provided, the results are acceptable for use as reported.



BULK ASBESTOS REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95
EIS Lab No: 26616
EIS Project No: 2009-8997
EIS Priority: 2
Client P.O.#:

Invoice To:
Client

SAMPLE IDENTIFICATION

Sample ID: AS-02
Pipe Insulation Room 3
Date Sampled:
Date Received: 6-02-95

Report To: CLIENT

Extra Report To:

METHOD OF ANALYSIS: Polarized Light Microscopy

DATE ANALYZED: 06-09-95
ANALYST: 30

ASBESTOS MINERALS

Chrysotile

Amosite

Crocidolite

Anthophyllite

Tremolite/Actinolite

TOTAL ASBESTOS FOUND IN SAMPLE

ESTIMATED PERCENTAGE

65

65

OTHER MATERIALS

Cellulose (Paper/Wood Fiber)

Glass Fiber

Other Fibers

Binders/Fillers

Auxiliary Minerals

28

7

SAMPLE DESCRIPTION

Heterogeneous sample.

Each Stratum of a Heterogeneous Sample is considered separately.

The estimated percentage of asbestos in each stratum is listed below.

Values reported in the main body of this report, above, reflect the percentage of each constituent compared to the entire sample.

Manager, Asbestos Laboratory

EIS Lab No: 26616(continued)

This sample consisted of two strata as follows:

1. A woven mat of fibers - 5% of sample
No asbestos detected.
2. Gray homogeneous fibers - 95% of sample
69% Chrysotile asbestos.
2. Chain-of-Custody document is enclosed.



ecology and environment, inc.

International Specialists in the Environment

111 West Jackson Boulevard
Chicago, Illinois 60604
Tel: (312) 663-9415, Fax: (312) 663-0791

M E M O R A N D U M

DATE: September 8, 1995

TO: Adam Garlapow, TAT Project Manager, E & E, Chicago, Illinois

FROM: Emily S. Landis, TAT Geochemist, E & E, Cleveland, Ohio

THROUGH: Anne A. Busher, Assistant TAT Leader, E & E, Cleveland, Ohio
David Hendren, TAT Analytical Services Manager, E & E, Chicago, Illinois
Mary J. Ripp, TAT QA Reports Manager, E & E, Chicago, Illinois

SUBJECT: Quality Assurance Review of Volatile Organic Compound (VOC)
Analysis Data, Auto Deposition, Inc., Cook County, Illinois

REFERENCE: Project TDD T05-9505-018 Analytical TDD T05-9505-809
Project PAN EIL0889SAA Analytical PAN EIL0889AAA

The data quality assurance (QA) review of one sample collected from the Auto Deposition, Inc. site, is complete. The sample was collected on June 1, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to EIS Environmental Engineers, Inc. (EIS), for VOC analysis. The laboratory analysis was performed according to the procedures set forth in United States Environmental Protection Agency (U.S. EPA) Solid Waste (SW)-846 Method 8260.

Sample Identification

<u>TAT</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
V-003	26615

Data Qualifications

I. Sample Holding Time: Acceptable

The sample was analyzed June 7, 1995, meeting the 14-day holding time limit.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning Criteria: Acceptable

Bromofluorobenzene (BFB) instrument tuning compound was run within 12 hours and on the same instrument as the sample. All ion abundance criteria were met.

III. Initial and Continuing Calibration Verification: Acceptable

All VOCs had response factors (RFs) equal to or greater than 0.05. Percent relative standard deviations (%RSDs) for the calibration check compounds (CCCs) were less than 30, except dichlorofluoromethane and iodomethane. Neither of these compounds was detected in the sample;

therefore, no action is required. The percent differences (%Ds) between initial and continuing calibration RFs were equal to or less than 25, except bromomethane and dichlorodifluoromethane. Internal standard retention times (RTs) were within quality control limits.

IV. Blanks: Acceptable

A method blank was prepared and analyzed on the same instrument. No compounds were detected above the estimated quantitation limit (EQL).

V. Compound Identification: Acceptable

Internal standard and surrogate compound retention times were within .06 units of the standard.

VI. Compound Detection Limits: Acceptable

The reported values and detection limits reflect dilutions that were required to complete the analysis.

VII. Overall Assessment of Data: Acceptable

This data evaluation is based on criteria established in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01, Quality Assurance/Quality Control Guidance for Removal Activities (1990). Based on the data provided, the results are acceptable for use as reported.



ANALYTICAL REPORT

Client:

Ms Emily S. Landis
Ecology & Environment Inc
6777 Engle Road
Cleveland, Ohio 44130
216-243-3330 (FAX 216-243-6923)

Report Date: 6-22-95**EIS Lab No:** 26615**EIS Project No:** 2009-8997**EIS Priority:** 2**Client P.O.#:****Certification:** Indiana Drinking Water Certificate No. C-71-02**Invoice To:**

Client

SAMPLE IDENTIFICATION

Sample ID: V 003 (Liquid)
Vat East Line Room 2

Date Sampled:**Date Received:** 6-02-95**Report To:** CLIENT**Extra Report To:****PARAMETER****UNITS****RESULT****TEST****DATE****ANALYST**

VOC

*

06-07-95 Myers,N

* See Attached ORGANICS REPORT

ADDITIONAL INFORMATION

1. Chain-of-Custody document is enclosed.
2. Sample was iced upon receipt.
3. Sample container(s) were properly preserved per USEPA protocols.
4. < = Not Detected at the Detection Limit (DL) shown.
5. DL = Detection Limit and is adjusted for dilutions/concentrations.
6. Batch [organic] Quality Control data is enclosed. This data was generated at the time that this sample was analyzed but was performed on a different sample.


QUALITY ASSURANCE OFFICER


LABORATORY DIRECTOR

SAMPLE ID: V 003

Vat East Line Room 2

REPORT DATE: 06/22/95

EIS LAB NO: 26615

VOLATILE ORGANIC COMPOUNDS/PETROLEUM HYDROCARBONS

Analysis Method: 8260

Reporting Units: ppb

Abbreviations and report
symbols are explained
on the following page

Sample Dilution: 1/10

EQL Multiplier: 10

COMPOUND NAME	RESULT	EQL	COMPOUND NAME	RESULT	EQL
Acetone	230	10	2,2-Dichloropropane	ND	5
Acrolein	ND	20	1,1-Dichloropropane	ND	2
Acrylonitrile	ND	20	c-1,3-Dichloropropane	ND	2
Benzene	ND	1	t-1,3-Dichloropropane	ND	2
Bromobenzene	ND	1	Diethyl Ether	ND	10
Bromochloromethane	ND	1	Ethylbenzene	ND	1
Bromoethane	ND	1	Ethyl Methacrylate	ND	5
Bromodichloromethane	ND	1	n-Heptane	ND	
Bromoform	ND	2	Hexachlorobutadiene	ND	2
Bromomethane	ND	2	2-Hexanone	ND	10
n-Butyl Benzene	ND	2	Iodomethane	ND	5
sec-Butyl Benzene	ND	2	Isopropyl Benzene	ND	2
tert-Butyl Benzene	ND	2	p-Isopropyltoluene	ND	2
Carbon Disulfide	ND	2	Methylene Chloride	ND	2
Carbon Tetrachloride	ND	2	Methyl Ethyl Ketone	ND	10
Chlorobenzene	ND	1	Methyl Isobutyl Ketone	ND	10
Chlorodibromomethane	ND	1	Methyl Methacrylate	ND	5
Chloroethane	ND	2	Naphthalene	ND	2
2-Chloroethylvinyl Ether	ND	10	Nitrobenzene	ND	50
Chloroform	ND	1	n-Propyl Benzene	ND	1
1-Chlorohexane	ND	2	Styrene	ND	1
Chloromethane	ND	10	tert-Butyl Methyl Ether	ND	2
2-Chlorotoluene	ND	1	1,1,1,2-Tetrachloroethane	ND	2
4-Chlorotoluene	ND	1	1,1,2,2-Tetrachloroethane	ND	1
Cyclohexanone	ND	100	Tetrachloroethane	ND	
1,2-Dibromo-3-chloropropane	ND	30	Tetrahydrofuran	ND	10
1,2-Dibromoethane	ND	1	Toluene	ND	1
c-1,2-Dibromoethane	ND	2	1,2,3-Trichlorobenzene	ND	1
t-1,2-Dibromoethane	ND	2	1,2,4-Trichlorobenzene	ND	1
Dibromomethane	ND	2	1,1,1-Trichloroethane	ND	1
1,2-Dichlorobenzene	ND	2	1,1,2-Trichloroethane	ND	1
1,3-Dichlorobenzene	ND	2	Trichloroethane	ND	1
1,4-Dichlorobenzene	ND	2	Trichlorofluoromethane	ND	2
1,4-Dichloro-2-butene	ND	30	1,2,3-Trichloropropane	ND	5
Dichlorodifluoromethane	ND	2	1,1,2-TCTFE*	ND	2
1,1-Dichloroethane	ND	1	1,2,4-Trimethylbenzene	ND	2
1,2-Dichloroethane	ND	1	1,3,5-Trimethylbenzene	ND	2
1,1-Dichloroethane	ND	2	Vinyl Acetate	ND	10
c-1,2-Dichloroethane	ND	1	Vinyl Chloride	ND	2
t-1,2-Dichloroethane	ND	1	m+p-Xylenes	ND	1
Dichlorofluoromethane	ND	5	o-Xylene	ND	1
1,2-Dichloropropane	ND	1	PETROLEUM HYDROCARBONS	ND	200
1,3-Dichloropropane	ND	2			

SAMPLE ID: V 003
Vat East Line Room 2

REPORT DATE: 06/22/95
EIS LAB NO: 26615

VOLATILE ORGANIC COMPOUNDS/PETROLEUM HYDROCARBONS
(Page 2 of 2)

SURROGATE RECOVERY (Method 8260)

<u>Compound Name</u>	<u>QC Limits</u>	<u>% Recovery</u>
1,2-Dichloroethane, d4	76 - 114	83
Toluene, d8	88 - 110	100
Bromofluorobenzene	86 - 115	107

DEFINITIONS

- o ppb = Parts per billion = micrograms per liter ($\mu\text{g/l}$)
- o ND = Not Detected
- o NR = Not Required for Analysis
- o EQL = Estimated Quantitation Limit (in Reporting Units) and is the "Detection Limit" for samples not requiring dilutions. [If a sample requires a dilution, the EQL shown must be multiplied by the inverse of the dilution factor (EQL Multiplier)]. EIS reports do not list the adjusted EQL values.
- o [] = Detected but below EQL and the result shown is an estimate.
- o The * compound (1,1,2-TCTFE) is 1,1,2-Trichloro-1,2,2-trifluoroethane.
- o Petroleum Hydrocarbons, if their presence is noted in this analysis, are reported in terms of #2 fuel oil. No attempt has been made to identify the product responsible for the Petroleum Hydrocarbon response. This analysis will not detect heavy distillates such as used oils, motor oils, hydraulic fluids.

TENTATIVELY IDENTIFIED COMPOUNDS

3-Hexene-2,5-diol 10 ppb

APPENDIX C
RCMS COST PROJECTION

COST SUMMARY

"Contractor Costs" redacted - not relevant to the selection of the removal action.

Page: 1

Date: 06/20/95

CLIN	Equipment Description	Ctr. Code	Hrs/ Days	Qty	Reg Days	Mob Days	Stby Days	Decon Days	Task Code	Task Description	Projected Cost	Total Cost
14710	Surburban-. .	EPA	10.0	10	0	2	2	2	0601	Administrative / S	0	0
25010	Mobile-Command Post	EPA	10.0	1	120	2	2	2	0601	Administrative / S	0	0
72320	Computer-Portable PC	EPA	10.0	2	120	2	2	2	0601	Administrative / S	0	0
72330	Computer-Dot Matrix Printer	EPA	10.0	1	120	2	2	2	0601	Administrative / S	0	0
74510	Facsimile Machine-	EPA	10.0	1	120	2	2	2	0601	Administrative / S	0	0
79510	Video Camera-	EPA	10.0	1	120	2	2	2	0601	Administrative / S	0	0
15420	Van-Mini	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
44920	Fume Hood-Vented	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
46350	Meter-pH	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
50120	Meter/Monitor-HNu (PID)	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
50125	Meter/Monitor-OVA (FID)	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
50130	Meter/Monitor-Oxygen	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
50140	Meter/Monitor-Aerosol/Miniram	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
50551	PPE-Lvl B/SCBA/Low Pres	TAT	10.0	1	120	2	2	2	0601	Administrative / S	0	0
50560	PPE-Respirator	TAT	10.0	3	120	2	2	2	0601	Administrative / S	0	0
(Equipment Totals:)											0	0
(Including Site Contingency:20.00%)												